



1793

Attorney Docket No. 1793.1172

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:

Chang-kyu CHOI et al.

Application No.: 10/757,994

Group Art Unit: 3662

Filed: January 16, 2004

Examiner:

For: ADAPTIVE BEAMFORMING METHOD AND APPARATUS USING FEEDBACK  
STRUCTURE

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 CFR § 1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the subject application.

1. Enclosures accompanying this Information Disclosure Statement are:

- 1a. ☒ Form PTO-1449.
- 1b. ☒ Copy(ies) of IDS citation(s), except for U.S. Patents and U.S. Patent Application publications for applications filed on or after June 30, 2003.
- 1c. ☒ English language copy of a communication(s) from a foreign Patent Office or a PCT International Search Report.
- 1d. ☐ English language translation (complete, Abstract or relevant portion(s)) attached to non-English language publications as indicated on the attached Form PTO-1449.
- 1e. ☐ Explanations of Relevancy of References (ATTACHMENT 1(e), hereto) for providing a concise explanation of non-English publications.
- 1f. ☐ List of Copending Applications (ATTACHMENT 1(f), hereto).
- 1g. ☐ List of Additional Submitted Documents (ATTACHMENT 1(g), hereto).

2. ☒ This Information Disclosure Statement is filed under 37 CFR § 1.97(b):

*(Check either Item 2a or 2b or 2c or 2d)*

- 2a. ☐ Within three months of the filing date of a national application;
- 2b. ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application.
- 2c. ☒ Before the mailing of a first Office Action on the merits; or
- 2d. ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114.

3. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(c) after the period specified in paragraph 2 above but before the mailing date of any of a Final Office Action under § 1.113, a Notice of Allowance under § 1.311 or an action that otherwise closes prosecution in the application, AND
- (Check either Item 3a or 3b; Item 3b to be checked if any reference known for more than 3 months)*
- 3a. ☐ The § 1.97(e) Statement in Item 5 below is applicable; OR
- 3b. ☐ The \$180.00 fee set forth in 37 CFR § 1.17(p) is:
- ☐ enclosed.
- ☐ to be charged to Deposit Account No. 19-3935.
4. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(d) after the period specified in paragraph 3 above, but on or before payment of the Issue Fee, AND
- 4a. ☐ The § 1.97(e) Statement in Item 5 below is applicable; AND
- 4b. ☐ The \$180.00 fee set forth in 37 CFR § 1.17(p) is:
- ☐ enclosed.
- ☐ to be charged to Deposit Account No. 19-3935.
5. ☐ Statement under § 1.97(e) *(applicable if Item 3a or Item 4a is checked)*
- (Check either Item 5a or 5b)*
- 5a. ☐ In accordance with 37 CFR § 1.97(e)(1), it is stated that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.
- 5b. ☐ In accordance with 37 CFR § 1.97(e)(2), it is stated that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known by any individual designated in § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.
6. ☐ This is a continuation/divisional/continuation-in-part application under 37 CFR § 1.53(b).
- (Check appropriate Items 6a and/or 6b)*
- 6a. ☐ Copies of the publications listed on the attached Form PTO-1449 which were previously cited in prior application Serial No. \_\_\_, filed on \_\_\_, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, have been omitted pursuant to 37 CFR § 1.98(d).
- 6b. ☐ Copies of the publications listed on the attached Form PTO-1449 which were not previously cited in prior application Serial No. \_\_\_, filed on \_\_\_, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, are provided herewith.


7. ☐ This is a Request for Continued Examination under 37 CFR § 1.114.  
(Check either Item 7a or 7b)
- 7a. ☐ The Issue Fee has not been paid.
- 7b. ☐ A Petition to Withdraw from issue under 37 CFR § 1.313(c) is filed concurrently herewith or has been granted. A Request for Continued Examination under 37 CFR § 1.114, after payment of the Issue Fee, is proper in accordance with 37 CFR § 1.114(a), respectively.
8. ☐ This is a Supplemental Information Disclosure Statement.  
(Check either Item 8a or 8b)
- 8a. ☐ This Supplemental Information Disclosure Statement under 37 CFR § 1.97(f) supplements the Information Disclosure Statement filed on \_\_\_\_\_. A bona fide attempt was made to comply with 37 CFR § 1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental IDS can be considered as if properly filed on \_\_\_\_\_.
- 8b. ☐ This Supplemental Information Disclosure Statement is timely filed within one (1) month of the Notice under 37 CFR §§ 1.97 and 1.98, mailed \_\_\_\_\_.
9. ☐ In accordance with 37 CFR § 1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:  
(Check appropriate Items 9a, 9b, 9c and/or 9d)
- 9a. ☐ satisfied for the non-English language publication(s) cited on the enclosed "English language version of the search report or action which indicates the degree of relevance found by the foreign office". (See MPEP § 609, Minimum Requirements for an Information Disclosure Statement, Part A(3): Concise Explanation of Relevance, 8th Ed., Rev. 2)
- 9b. ☐ set forth in the application.
- 9c. ☐ satisfied for the non-English language publication(s) indicated on the attached Form PTO-1449 as having an English language translation (complete or relevant portion(s)) attached thereto.
- 9d. ☐ enclosed as Attachment 1(e), hereto.
10. No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than search report(s) from a counterpart foreign application or a PCT International Search Report, if submitted herewith). 37 CFR §§ 1.97(g) and (h).

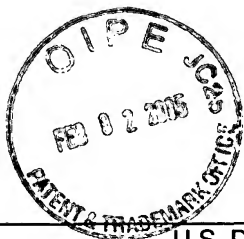
11. The Commissioner is authorized to credit any overpayment or charge any additional fee required under 37 CFR § 1.17 for this Information Disclosure Statement to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Dated: Feb 2, 2005  
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Sheet 1 of 1

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET NO.

1793.1172

APPLICATION NO.

10/757,994

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

FIRST NAMED INVENTOR

Chang-kyu CHOI et al.

FILING DATE

January 16, 2004

GROUP ART UNIT

3662

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	TRANSLATION YES NO		ABSTRACT
	AG						
	AH						
	AI						
	AJ						
	AK						

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

TRANSLATION  
YES NO

	AL	O. Hoshuyama, "A Robust Adaptive Beamformer for Microphone Arrays with a Blocking Matrix Using Constrained Adaptive Filters," <i>IEEE Transactions on Signal Processing</i> , Vol. 47, No. 10, 10/99, pp. 2677-2684	X	
	AM	G. Mirchandani, et al., "S New Adaptive Noise Cancellation Scheme in the Presence of Crosstalk," <i>IEEE Transactions on Circuits and Systems</i> , Vol. 39, No. 10, 10/99, pp. 681-694		
EXAMINER			DATE CONSIDERED	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.